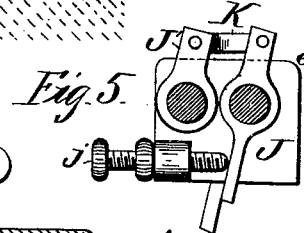
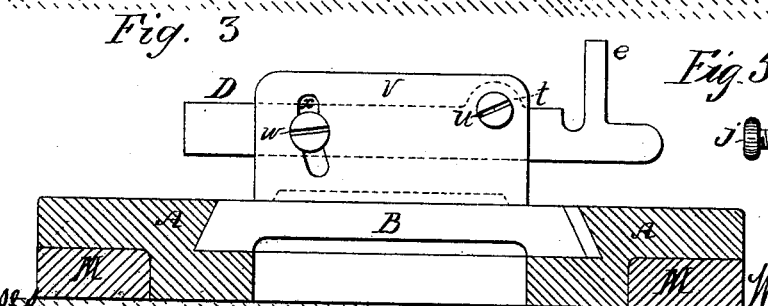
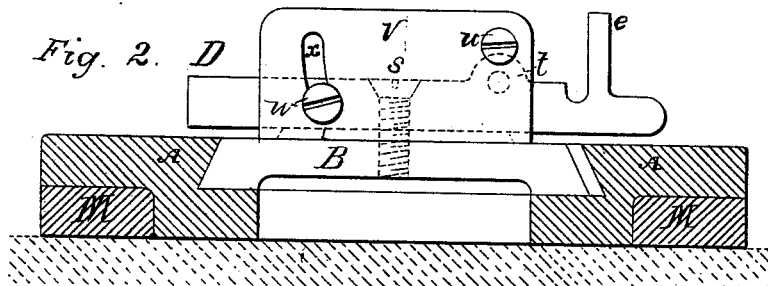
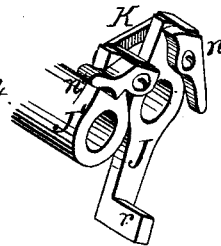
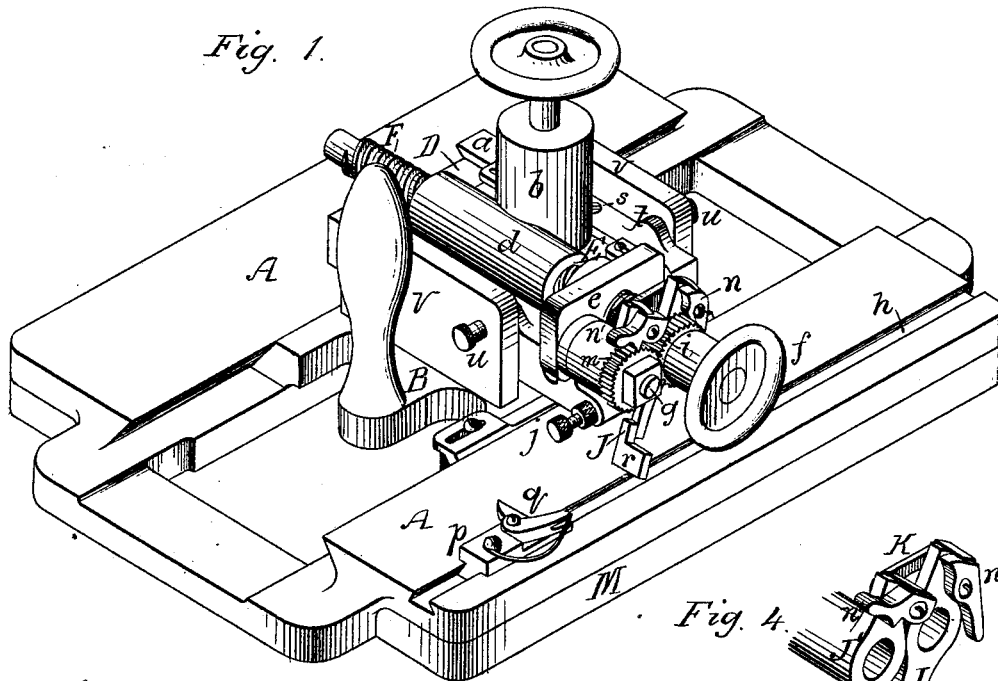


W. GRISCOM.
Millstone-Dressing Machine.

No. 221,551.

Patented Nov. 11, 1879.



Witness
Harry Smith

Inventor
Walter Griscom
By his Attorneys
Hobson & Son

UNITED STATES PATENT OFFICE.

WALTER GRISCOM, OF POTTSVILLE, PENNSYLVANIA.

IMPROVEMENT IN MILLSTONE-DRESSING MACHINES.

Specification forming part of Letters Patent No. **221,551**, dated November 11, 1879; application filed September 20, 1879.

To all whom it may concern:

Be it known that I, WALTER GRISCOM, of Pottsville, Schuylkill county, Pennsylvania, have invented a new and useful Improvement in Millstone-Dressing Machines, of which the following is a specification.

My invention relates to that class of millstone-dressing machines in which a carriage is arranged to be reciprocated in a guiding-frame, so as to cause a diamond to act on the stone.

The objects of my invention are to bring the diamond-carriage closer to the stone than usual, to provide means for automatically feeding the diamond-carriage in both directions, and to so secure the platform carrying said diamond-carriage to the main carriage that the machine can be used either for facing on a level or for cutting furrows inclined in either direction. These objects I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a millstone-dressing machine with my improvements; Figs. 2 and 3, transverse sections, illustrating one of the features of my invention; Fig. 4, a perspective view of the feed-operating levers and their pawls; and Fig. 5, a detached section of part of the machine.

A is the main frame of the machine, in which are formed dovetailed guides for the main carriage B, which is furnished with a suitable handle. This carriage B supports a platform, D, having transverse guides *a*, to which is adapted the carriage E, provided with the diamond cutter.

It will be observed, in reference to Figs. 1, 2, and 3, that the frame A rests directly upon the stone, which is shown by dotted lines, and that each edge of the said frame A is recessed on the under side for the reception of a bar, M. These bars permit the adjustment of the frame A without interfering with the bearing on the stone, in the same manner as the intermediate frame shown and described in L. Moore's reissued Patent No. 7,754. The recessing of the frame for the reception of the bars, however, allows the diamond-carriage to be brought much nearer to the stone than is possible with the arrangement shown in said patent, thereby preventing that shaking of the tool which

results when the tool-stem projects to any great extent below the diamond-carriage.

The carriage E has the usual upright stem *b* and a projection, *d*, threaded for the reception of the feed-screw F, which turns in a bearing in the flange *e* on the platform D.

The stem of the screw F carries a pinion, *i*, and hand-wheel *f*, the pinion gearing into another pinion, *m*, arranged to turn on a stud, *g*, projecting from the flange *e* in line with and adjacent to the stem of the feed-screw. Hung to the said stem is a lever, J, and on the stud *g* is hung a lever, J', the said levers J J' carrying, respectively, pawls *n n'*, the pawl *n* being arranged to engage with the pinion *i* and the pawl *n'* with the pinion *m*. The pawls are acted upon by springs, and are pivoted to the levers, so that either pawl may be turned up and out of gear with the pinion. The levers J J' are connected by a bar, K, so that they move in unison.

In the plate A is a groove, *h*, to which is adapted a block, *p*, the latter carrying a pivoted spring-dog, *q*, which, upon the backward movement of the carriage, is struck by a projection, *r*, on the lever J, and causes the movement of the same and of the lever J', the levers being returned to their original positions by the action of a suitable spring as soon as the projection *r* of the lever J is free from the control of the dog, which yields on the forward movement of the carriage B, so as to permit the projection *r* to pass it without moving the lever J.

The vibrating levers J J', acting through the medium of the pawls and pinions, operate the feed-screw F and cause the shifting of the carriage E, the direction of the feed depending upon which of the pawls *n n'* is in gear with its pinion. Thus, if the pawl *n* is in gear with the pinion *i* and the pawl *n'* out of gear, the movement of the lever J will be transmitted directly to said pinion *i* and the screw F will be turned to the left; but if the pawl *n* is out of gear and the pawl *n'* in gear, the movement of the lever will be transmitted first through the lever J' to the pinion *m*, and by the latter to the pinion *i*, so that the screw F will be turned to the right.

A set-screw, *j*, is adapted to a projection on the platform D, the inner end of said set-

screw extending beyond the inner edge of the projection and serving as an abutment for the long arm of the lever J when the latter recoils under the influence of the spring. By adjusting the set-screw the extent of this recoil, and consequently the extent of feed at each stroke of the lever, can be governed.

The block *p*, carrying the dog *q*, is adjustable, so that it may be adapted to the different lengths of stroke of the carriage B.

When the machine is used for surfacing or level dressing the platform D is allowed to rest directly upon the carriage B, as in Fig. 2, and is secured thereto by set-screws *s*, this arrangement also aiding in bringing the diamond-carriage closely to the surface of the stone.

When it is desired to cut furrows the platform is elevated, as in Fig. 3, so that lugs *t* on the same are brought into line with set-screws *u* passing through upright flanges *r* on the carriage B. When the ends of the set-screws are adapted to openings in the lugs *t* the platform D will be pivoted to the carriage B, so that it may be tilted, in order to adjust the diamond for the cutting of furrows inclined in either direction, the platform being secured in the position to which it is adjusted by means

of a binding-screw, *w*, adapted to a segmental slot, *x*, in one of the flanges *v*.

I claim as my invention—

1. The combination, in a millstone-dressing machine, of the main carriage B, the diamond-carriage E, the adjusting-bars M, and the guiding-frame A, recessed for the reception of said adjusting-bars, all substantially as set forth.

2. The combination, in a millstone-dressing machine, of the feed-screw F, having a pinion, *i*, the stud *g*, the pinion *m*, and the connected levers J J', having pawls *n n'*, all substantially as set forth.

3. The combination of the platform D with the carriage B, having flanges *v*, with set-screws *u*, which serve as pivots for the platform, but which can be retracted, so as to permit the base of the said platform to rest upon the carriage, all as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER GRISCOM.

Witnesses:

ALEXANDER PATTERSON,
HARRY SMITH.